UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/571,187 | 03/09/2006 | David Hilton | 5035-238US/P32,202 USA | 4211 |

20802 7590 05/18/2007

SYNNESTVEDT LECHNER & WOODBRIDGE LLP
P O BOX 592
112 NASSAU STREET
PRINCETON, NJ 08542-0592

| EXAMINER | |
|---|---|
| HESSE, CAROL | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2876 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 05/18/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/571,187 | HILTON ET AL. | |
| | Examiner | Art Unit | |
| | Carol Hesse | 2876 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *09 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09 March 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## *Detailed Action*

Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.

## *Status of the Application*

If applicant is aware of any prior art or any other co-pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

## *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. With respect to claim 5, this claim is broader than the claim it is dependent on, claim 2. Claim 2 limits the step of encoding the selected data to using the cryptographic key; however, claim 5 states the encoded selected data is generated by hashing or encryption using the key.

4. With respect to claim 18, dependent on claim 17, fails to further limit claim 17. Both claims are referring to the graphic image being visually compatible with other document images, however, claim 18 recites the "appearance" of the graphic image, and claim 17 recites the "external shape" which is further limiting.

5. With respect to claim 19, dependent on claim 1, fails to further limit claim 1. Claim 19 states that the document is any object that can carry a printed image, however, claim 1 already establishes that there is a document that is printed with an image.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-9, 12, 16, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Szikiai (EP 0 011 671 A1).

3. With respect to claim 1, 19 and 23, Szikiai discloses:

- A method of preparing a document so that it can be authenticated (p. 4, lines 19-33); comprising the following steps:
- Selecting data sufficient to authenticate the document (a signature is used to verify the document, p. 4, lines 28-33)
- Generating a cryptographic key to encode the selected data (a key number is used to generate the cryptograph [16], p. 16, lines 9-14)
- Encoding the cryptographic key so that it forms a digital representation of a graphic image (key number or cryptokey is put in the form of a bar code, p. 16, lines 1-7)

- Printing the graphic image on the document (bar code key is printed as track [20], p. 16, lines 1-7)
- The document prepared according to the above steps (Fig. 1A, p. 7, lines 16-17).

4. With respect to claim 2 and 5, Szikiai discloses the limitations of claim 1, and the additional step:

- Encoding the selected data (signature) using the cryptographic key and then printing the encoded, selected data on the document [16] (p. 20, line 9- p. 21, line 6).

5. With respect to claim 3, Szikiai discloses the limitations of claim 2, and the step:

- Scanning the graphic image to extract the key in order to use the key to encode the selected data (cryptokey reader [210], p. 48, lines 15-28, tells which mode is used for the cryptography in order to transform the signature, p. 49, line 30- p. 50, line 25).

6. With respect to claim 6, Szikiai discloses claim 1, and:

- The selected data comprises data that is printed on the document in human readable (hand-signed signature [12]) or machine-readable form (signature cryptograph [16], Fig. 1A, p. 10, lines 1-25).

7. With respect to claim 7, Szikiai discloses claim 1, and:

- Encoding the selected data by encrypting or hashing the selected data using the key derived or derivable from the graphic image printed onto the document (p. 20, line 9- p. 21, line 6)

- Printing the encrypted or hashed selected data as text or a graphic [16] on the document (p. 20, line 9- p. 21, line 6).

8. With respect to claim 8, Szikiai discloses claim 2, and:

- When the document has to be authenticated, the document is scanned to automatically extract the key by a scanner (p. 12, lines 15-20, p. 37, lines 16-18).

9. With respect to claim 9, Szikiai discloses the limitations of claim 8, and:

- The key extracted by scanning enables authentication (p. 12, lines 15-20, p. 37, lines 16-18) because the method comprises the further steps of
- Using the extracted key to encode the selected data printed on the document (p. 27, lines 13-26)
- Automatically comparing the result with the encoded, selected data printed onto the document (p. 22, lines 13-22, p. 32, lines 9-18).

10. With respect to claim 12, Szikiai discloses claim 1, and:

- Different keys are automatically generated for different documents (different modes are employed for pixel relocation of the coded data in [16], which is represented by the key number coded in the bar code of track [20], p. 15, line 24- p. 16, line 14).

11. With respect to claim 16, Szikiai discloses claim 1, and:

- The graphic is a one or two-dimensional barcode (tracks [18/20]) or other graphical symbol (p. 12, lines 30-34, p. 16, lines 9-14).

12. With respect to claim 21, Szikiai discloses the limitations of claim 1, and:

- A step of authentication occurs at a check-cashing outlet, bank of first deposit, or point of sale (p. 2, lines 5-35, p. 8, lines 1-2).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Szikiai (EP 0 011 671 A1)

Szikiai discloses that the key automatically extracted by scanning (p. 27, lines 13-26) enables authentication because it is a personal identification number (p. 5, lines 15-32).

Szikiai fails to state that the step further comprises an end-user entering a personal identification number at a terminal and automatically comparing that number with the number automatically extracted from the scanned graphic.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to include the step of comparing a PIN read from the document to a PIN obtained from the user because user entered PINs have commonly been used in the art as a form of verification of identify or electronic signature, for the benefit of better securing and authorizing transactions (for an example, see Yorozu et al., Patent No.: 4,722,054, col. 1, lines 23-28, col. 4, lines 49-68).

5. Claims 4, 10, 13-15, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szikiai (EP 0 011 671 A1) as applied to claim 1 above, and further in view of Lee et al. (Patent No.: US 6,170,744 B1).

6. With respect to claim 4, Szikiai disclose the elements of claim 2, and encoding the selected data using the key (p. 20, line 9- p. 21, line 6).

Szikiai fails to explicitly disclose that the key is looked up in a database.

Lee et al. teach looking up a key in a database (key management system [688/665]) (Fig. 2, col. 7, lines 20-33, col. 8, lines 56-62).

It would have been obvious to a person of ordinary skill in the art to modify Szikiai with the teachings of Lee et al. because it centralizes the key management (Lee et al., col. 7, lines 29-33).

7. With respect to claim 10, Szikiai disclose the limitations of claim 9.

Szikiai fail to disclose that the extracted key is not explicitly revealed at any time, but instead fed directly to an algorithm used to encode the selected data printed on the document.

Lee et al. teach the key is not explicitly revealed at any time but instead fed directly to an algorithm used to encode the selected data printed on the document (a public key paired with a private key is used for document encryption, a digital signal encoded on the check is created using a private key, a private key is not revealed, col. 3, lines, 61-67, Fig. 2, col. 8, lines 11-37).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Szikiai with Lee et al. for security of not allowing outsiders to decode private key transaction information, further preventing check tampering of the encoded information (Lee et al., col. 3, line 38- col. 4, line 13).

8. With respect to claim 13, Szikiai disclose the elements of claim 1.

Szikiai fails to disclose that the key is generated by a random process or other non-sequential method.

Lee et al. teach an encryption key (hashed-based encoding, col. 6, lines 42-45) is generated by a random process or other non-sequential process that makes it difficult to

link the key (hash-based encoding) to any data encoded on the document (a random hash is used for a first document, col. 11, lines 26-30).

It would have been obvious to a person having ordinary skill in the art to modify Szikiai with Lee et al. because provides a security check for the document (Lee et al., col. 6, lines 42-45).

9. With respect to claim 14, Szikiai discloses the limitations of claim 1.

Szikiai fails to disclose that an algorithm is used to decode the key as part of the authentication process and the method comprises the further step of amending the parameters of the algorithm to enhance security.

Lee et al. teach that an algorithm is used to decode the key as part of the authentication process and the method comprises the further step of amending the parameters of the algorithm to enhance security (the hash of the previous document is combined with the current document so that documents produced consecutively from a same creator are linked together, col. 11, lines 26-45).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Szikiai with Lee et al. for the advantage of additional security when an issuer creates an invalid document, checks from the same issuer are linked (Lee et al., col. 11, lines 43-55).

10. With respect to claim 15, claim 14 is addressed above.

Szikiai fails to disclose that the parameters to decode the key are downloaded to the location at which document authentication is to occur at widely spaced intervals.

Lee et al. teach that parameters needed to decode the key are downloaded to the location at which document authentication is to occur at widely spaced intervals of time and not for each successive document (MICRO-LASER printing system performs validation and generation by the same software col. 7, lines 2-13, lines 48-57, software does not need to downloaded for each successive document, one of the security features is such that documents of the same creator are linked together, col. col. 11, lines 26-45).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Szikiai with Lee et al. because the software provides a convenience of both customer and bank (Lee et al., col. 7, lines 2-13).

11. With respect to claim 20, the limitations of claim 15 and combination motivation is described above. Additionally, Szikiai disclose that the document is a check (p. 22, lines 8-12).

12. With respect to claim 22, the limitations and combination motivation of claim 15 is described above. Furthermore, Szikiai discloses that the document is printed packaging (an envelope is a package with printing, p. 86, lines 1-10).

13. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szikiai (EP 0 011 671 A1) as applied to claim 16, above, and further in view of Roustaei (Publication No.: US 2002/0020746 A1).

14. With respect to claim 17 and 18, Szikiai disclose the elements of claim 16.

Szikiai et al. fail to disclose that the graphic (key encoded graphic) image is two dimensional, and that the external shape of the graphic image is visually compatible with other images on the document

Roustaei teaches a graphic image that is two-dimensional graphical symbol (p. 2, para. 0024) and the appearance/external shape of the image can be adapted so that it is visually compatible with other images on the document (Fig. 1, Fig. 2, p. 1, para. 0018- p. 2, para. 0024).

15. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Szikiai et al. with Roustaei because the coded graphical image will not detract from a visual design of the document (Roustaei, p. 1, para. 0003).

***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hirano et al. (Publication No.: US 2003/0105950 A1) disclose a document verification system using a watermark with visually coded data.
- Meadow et al. (Publication No.: US 2002/0174074 A1) disclose a check verification system including printing a hash value, and inputting a PIN from the user.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Hesse whose telephone number is 571-272-9788.

The examiner can normally be reached on Monday-Thursday 7:30-5:00, e/o Friday 7:30-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CH

Carol Hesse
Assistant Patent Examiner

MICHAEL G. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800